Work Order ID 106191

\*106191\*

Page 1 August-28-13 1:01:36 PM Item ID: D2274 Accept \*N900040100\* Setup Start **Revision ID:** Stop Item Name: Radius Block **Start Date:** 8/19/13 **Start Qty: 270.00 Cust Item ID:** Required Date: 8/28/13 Req'd Qty: 270.00 **Customer:** Reference: Run Process Plan: MLJ Date: 13-08-30 Tooling: **Approvals:** Date: Stop SPC (Y/N): Date: Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Reject Accept Reject Insp. Work Center ID **Description Run Hours** Code Qty Qty Number Stamp Draw Nbr **Revision Nbr** D2274 Rev F 100 0.00 SHEAR \*100\* Shear 0.00 Memo Shear blanks 9.00" long +/- 0.030"Note: 1 blank makes 9 pieces 110 0.00 HAAS CNC VERTICAL MACHINING #1 \*110\* HAAS 1 0.00 HAAS CNC vertical machine #1 Machine as per folio D2274 120 QC2- Inspect parts off machine FAI/FAIB 0.00 0.00 Memo Quality Control

												DQA:	Date	):
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								-				QA Closed.	Date	
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Part N	0.						Scrap	1 <b> </b>		Machining	Small Fab	Proc	d. Eng. Coor.	Quality
	-					1	Use-as-is		Thern	noforming	Finishing	Rec/Store	e/Packaging	Other
NCR N	ο.						Work Order Update	]		Large Fab (	Composite		Supplier	
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Cause	$\dashv$	Date	Step	Qty			r Non-conformance	Cn	ief Eng	Descript	tion	Date	verincation	QC Inspector
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	-	Bending					Bend	_	Grain		<b>_</b>	Ovalized		Pressure/Forced
1		Centre No	ot Concer	ntric to (	O/S		BOM/Route		Hardwa		_	Over/Under 1		Temperature/Cure
	_	Cracks	o .				Broken/Damaged			on Incomplete		Part Incorrec	<b>⊢</b>	Weld
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Ì	$\dashv$	Heat Treat Inspection Ripples in	Bend S	<b>550</b>	100 m	* C2	DrillyHoles	-	Offset,	,	L.,		ν <sub>Σ</sub> .	10ther
	1	Tòrque.W	aves in E	xtrusion		•	Drawing )			Calibration				<u> </u>
	,	Torque.W Turning Se Wave/Twi	<del>کئورد</del> equençe	Trope	723		Finish			equence				
		Wave/Twi	ist in Tuk	Te of the	<b>5</b> 75		Folio			Dimensions				

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Order ID 106191

\*106191\*

Page 2

August-28-13 1:01:36 PM

Required Date: 8/28/13

Item ID:

D2274

Accept

\*N900040100\*

Setup Start

Stop

**Revision ID:** 

Item Name: **Start Date:** 

Radius Block

8/19/13

**Start Qty: 270.00** Req'd Qty: 270.00

\*270\* \*270\*

**Cust Item ID:** 

**Customer:** 

Reference:

Approvals:

Process Plan: Date: Tooling:

SPC (Y/N):

Date:

Date:

Run

Stop

1613-10-11

Sequence ID/ Work Center ID

**Operation** Description

QC:

QC8- Inspect parts - second check

Date:

Set Up/ **Run Hours** 0.00

Tool ID

Tool # Plan Code

Accept Qty

Reject Reject Qty Number

Insp. Stamp

SL13-9-25

\*130\*

QC

130

Memo

0.00

Quality Control

140

\*140\* Small Fab

Small Fab

Small Fab

Memo

0.00

0.00

TumbleDeburr any rough edges after tumbling

150

Chemical Conversion Coat per QSI005 4.1

0.00

\*150\* HandFinish Hand Finishing

Memo

0.00

											DQA:	Dat	e: _	
NCR:	⁄es	/ No				WORK ORDER NON-C	ON	IFORN	MANCE / UPDAT	ΤE	·		_	
									-	·	QA Closed:	Dat	e:	
Work Orde	s <del>i</del> ·					DISPOSITION				AGAINST DEI	PARTMENT	/PROCESS		
Part No.  NCR No.					Rework Scrap Use-as-is Work Order Update		Therm	Skid-tube Crosstube Machining Small Fab hermoforming Finishing Large Fab Composite		Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier			Engineering Quality Other	
					<del></del>									
Root					Descri	ption of work order update		nitial	Action		Sign &		ı	
Cause		Date	Step	Qty	(	or Non-conformance	Chi	ef Eng	Description	on	Date	Verification	1	QC Inspector
Doc/Data	Ш													
Equip/Tooling	Ш								•			:	Į	
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		Crushed/0	Crimped			Burrs	Ш	instruct	ions Incomplete/Uncle	ear	Part Lost/Mi	ssing		Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Moved			
		Heat Trea	t			Countersink		Mislabe	led		Positioned V	Vrong _		
		Inspection	n Strip in	Tube		Cut Too Short		Misread	1		Power Loss/	Surge		Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Order ID 106191

\*106191\*

Page 3

August-28-13 1:01:36 PM

Required Date: 8/28/13

Item ID:

D2274

Accept

\*N900040100\*

Setup Start

**Revision ID:** 

Item Name: **Start Date:** 

Radius Block

8/19/13

**Start Oty: 270.00** Req'd Qty: 270.00

\*270\*

**Cust Item ID:** 

**Customer:** 

Tool ID

Reference:

**Approvals:** 

Process Plan: \_\_\_\_\_ Date:

Tooling:

0.00

**SPC (Y/N):** 

Date:

Tool # Plan

Code

Date:

Stop

Reject

Sequence ID/ Work Center ID

160 \*160\*

QC

Quality Control

Operation Description

QC7-Inspect Chemical Conversion Coat

Date:

Memo

Set Up/ **Run Hours** 

DAS 27

Run

Reject

**Qty** 

Number Stamp

Insp.

170

Identify as per dwg & Stock Location: 5700\$

QC21- Final Inspection - Work Order Release

0.00

\*170\* Packaging

Packaging

Memo

0.00

Accept

Qty

180

Quality Control

QC

Memo

0.00 .

0.00

NCR: Y	'es / No	)			WORK ORDER NON-C	CONF	ORI	MANCE / UPI	DATE			
	•									QA Closed:	Date:	
Work Orde	er:				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part No				Rework Scrap Use-as-is Work Order Update	rap Machining Small Fab			Crosstube Small Fab Finishing Composite	Pro Rec/Sto	Engineering Quality Other		
Root				Descri	ption of work order update	Init	ial	Act	tion	Sign &		
Cause	Date	Step	Qty	(	or Non-conformance	Chief	Eng	Desci	ription	Date	Verification	QC Inspector
Doc/Data					,							
Equip/Tooling												
Operator	_										· · · · · · · · · · · · · · · · · · ·	
Material	_											,
Setup						ļ		1				
Other			4									
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Supplier	_	ļ										
Training	_	- 1										
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					· · · · · · · · · · · · · · · · · · ·	AULI	CATE	GORY				
Landi	ng Gear	ı			General					Ovalized	<u></u>	Pressure/Forced
	Bendir	-		o/s  -	Bend BOM/Route	-	rain ardwa		-	Over/Under	talaransa	Temperature/Cure
	_	Not Conce	ntric to	<sup>0/3</sup>  -	BOM/Route	$\mathbf{H}$			<b>-</b>	Part Incorre	<del></del>	Weld
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	_	tion Strip ir	Tuhe	-	Cut Too Short	$\vdash$	isrea		<u> </u>	Power Loss/		Other
	_	s in Bend	TUDE	<b>—</b>	Drill Holes	$\vdash$	ffset	<b>~</b>	<u> </u>	1. 04101 2033/		100.00
		Waves in	Extrusio	, <del> </del>	Drawing	$\vdash$		Calibration				<del></del>
		g Sequence			Finish	$\vdash$		Sequence				

Outside Dimensions

DQA:

Date:

Wave/Twist in Tube

Folio

August-28-13 1:01:41 PM

Work Order ID: 106191

\*106191\*

Parent Item:

D2274

\*D2274\*

Parent Item Name:

Radius Block

**Start Date:** 8/19/13

Required Date: 8/28/13

Page 1

**Start Qty: 270.00** 

\*\*

Required Qty: 270.00

**Comments:** 

IPP H00.05.18Added inspection level 8EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Primary Item Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B00750X00.1		Purchased	No		100	f	72.0000	0.0916	26.0336	8		

## \*M6061T6B00750X00 125\*

6061-T6 Bar .750 x .125

 Location
 Loc Qty
 Loc Code

 MAT015
 72

 M126043
 72

 126915
 72

3 Of 2013-09-23

											DQA	:Da	ate:	
NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORM	MANCE / UP	DATE				
											QA Closed	: Da	ate:	
Work Ord	or.				ii ii	DISPOSITION				AGAINST DE	PARTMEN	/PROCESS		
WOIK OIG	Ç1.					Rework	7		Skid-tube	Crosstube	7	Water Jet	t	Engineering
Part I	No.					Scrap	1		Machining	Small Fab	Pro	od. Eng. Coor	$\vdash$	Quality
					<del></del> -	Use-as-is	1	Thern	noforming	Finishing	Rec/Sto	re/Packaging		Other
NCR	No.					Work Order Update	]		Large Fab	Composite		Supplier		
									<u> </u>					
Root			1	İ		ption of work order update		Initial		tion	Sign &			
Cause		Date	Step	Qty		or Non-conformance	Cr	nief Eng	Desc	ription	Date	Verification	n	QC Inspector
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Equip/Tooling	$ldsymbol{le}}}}}}}$		ļ											
Operator											•			
Material	<u> </u>													
Setup	<u> </u>			,				i						
Other	<u> </u>													
Process	<u> </u>										į			
Supplier					,									
Training			ļ.									ļ.		
Unapproved	l										1	<u> </u>		
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Landi	ing (	1				General		J		·	۱		$\overline{}$	lo
	_	Bending				Bend	$\vdash$	Grain			Ovalized		-	Pressure/Forced
	$\vdash$	Centre N	ot Concei	ntric to	<sup>0/S</sup>	BOM/Route	-	Hardwa	•		Over/Unde			Temperature/Cure
	-	Cracks			-	Broken/Damaged	$\vdash$	<b>-</b> 1 '	on Incomplete	(11m al a m	Part Incorre		-	Weld
	$\vdash$	Crushed/	Crimped		<u> </u>	Burrs	-	4	ions Incomplete/	Unclear	Part Lost/M	-		Wrong Stock Pulled
	<u></u>	Cuffs				Contamination	$\vdash$	Mainte		<u> </u>	Part Moved			
	$\vdash$	Heat Tre				Countersink	$\vdash$	Mislabe		<u> </u>	Positioned	_	_	اما
1	1	Inspectio	n Strip in	Tube	1	Cut Too Short	1	Misread	i		Power Loss	/Surge •	1	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

DART AEROSPACE LTD	Work Order:	106191
Description: Radius Block	Part Number:	D2274
Inspection Dwg: D2274 Rev: F		Page 1 of 1

## FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.257	+0.005 -0.000	,260			vem	25-4
0.750	+/-0.010	,746			,(	
0.375	+/-0.010	,370			(i	
0.125	+/-0.010	- (23			<i>u</i>	
0.750	+/-0.010	.751			11	
0.063	+/-0.010	.059			\(	
``						
	1					
				•		

/ Da			
Measured by:	Audited by:	Prototype Approval:	N/.
Date: 13 - 09 - 24	Date: 13-9-25	Date:	N/.

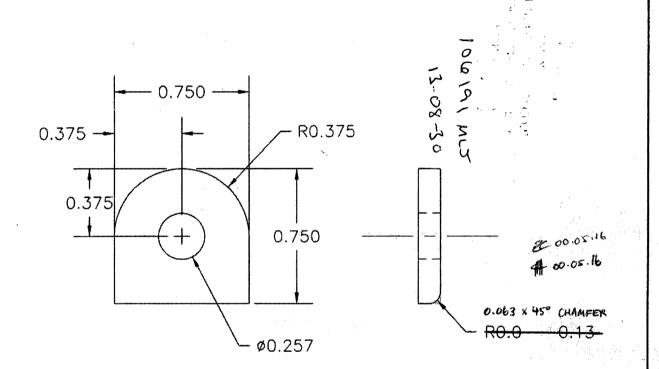
Rev	Date	Change	Revised by	Approved
Α	03.10.07	New Issue	KJ/RF	14





DESIG	KE	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHEC	ED V	APPROYED	DRAWING NO. REV. F
	N W	1 4	D2274 SHEET 1 OF
DATE			TITLE SCALE
98.0	8.11		RADIUS BLOCK 2:
A		94.09.29	NEW ISSUE
С		95.07.12	RADIUS ENDS
D		97.03.24	ADD MATERIAL SPECIFICATION
Ε		97.12.12	ADD FINISH & TOLERANCE QSI
F		98.08.11	RO.0 - 0.13 WAS RO.063 - 0.125

## RELEASED 18/18/18 KED



MATERIAL: 5052-H34 (QQ-A-250/8) 0.125 THICK

OR 6061-T6 (QQ-A-250/11) 0.125 THICK

FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED